

**IN THE UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF MISSISSIPPI
NORTHERN DIVISION**

LATOYA BROWN; et al

PLAINTIFFS

v.

Civ. No. 3:17cv347-WHB-LRA

MADISON COUNTY, MISSISSIPPI; et al

DEFENDANTS

**MEMORANDUM IN SUPPORT OF DEFENDANTS' RESPONSE
IN OPPOSITION TO PLAINTIFFS' MOTION TO
EXCLUDE THE REPORT AND TESTIMONY OF WILLIAM R. FUNDERBURK**

Plaintiffs argue Defendants' professional geographer should not be allowed to testify about their economist's geographic analysis. William Funderburk, a geographer responsible for overseeing a statewide network of global positioning systems ("GPS") and geographic information systems ("GIS") utilized by Federal and State agencies, reviewed the hopelessly-flawed geocoded roadblock locations offered on behalf of Plaintiffs by Dr. Bryan Ricchetti. Mr. Funderburk noted numerous flaws in Dr. Ricchetti's geographic analysis. Plaintiffs now move to strike Mr. Funderburk's testimony.

Mr. Funderburk reviewed Dr. Ricchetti's underlying geocoded data, which is the basis for his regression analysis. At the end of his review, Mr. Funderburk interviewed Deputy Rylon Thompson to gather additional information and test his findings. Mr. Funderburk and Deputy Thompson reviewed Dr. Ricchetti's geocoded results using high-resolution imagery. Plaintiffs move to strike *all* of Mr. Funderburk's testimony based on this interview. Plaintiffs argue this interview and Exhibit Nos. 1-11 attached to Mr. Funderburk's report taint all of his findings. Plaintiffs cite several cases in their motion, none of which apply Fed. R. Evid. 702 and 703 in the manner they propose here. The most recent controlling authority only confirms the admissibility of Mr. Funderburk's testimony. *See Factory Mut. Ins. Co. v. Alon USA L.P.*, 705 F.3d 518 (5th

Cir. 2013). Plaintiffs’ own geographer confirms that reviewing geocoded locations using high-resolution imagery and meeting with individuals with firsthand knowledge are two acceptable ways to evaluate the accuracy and precision of geocoding, i.e., “ground truthing.” [Dkt. # 302-3 at ¶¶ 48 and 52]. Mr. Funderburk did both here.

EVIDENTIARY BACKGROUND

A. The Qualifications and Methodology of Defendant’s Geographer

Plaintiffs attack Mr. Funderburk’s independent expertise. [Dkt. # 308 at 15]. This attack is specious. Mr. Funderburk’s experience is described in ¶¶ 1-9 of his report. [Dkt. # 267-21]. In summary, Mr. Funderburk is a Field Applications Scientist with the University of Southern Mississippi’s Gulf Coast Geospatial Center (“GCGC”) as well as an adjunct faculty member for the Division of Marine Science’s Department of Hydrography. [*Id.* at ¶¶ 1-2]. He holds a B.S. and M.S. in Geography from USM’s Department of Geography and Geology, and a minor in mathematics. [*Id.* at ¶ 1]. The GCGC works to ensure accurate geopositional information is collected, distributed, maintained, and included in the National Spatial Reference System. [*Id.* at ¶¶ 2-3]. Designated by the U.S. Department of Commerce’s National Oceanic and Atmospheric Administration as the Mississippi Spatial Reference Center, GCGC is responsible for creating comprehensive GIS datasets using all types of new and existing geodetic, remote sensing, terrestrial gravity and other physical geographic information systems datasets. [*Id.* at ¶ 4]. The GCGC established, maintains, and operates a statewide network of approximately 52 reference stations that provide the most accurate and precise Global Navigation Satellite System solutions available for non-military users. [*Id.*]. The network Mr. Funderburk professionally maintains serves countless individual and institutional users throughout Mississippi as well as provides direct support for Mississippi’s Department of Transportation. Mr. Funderburk himself has geocoded

millions of locations over the course of his career. *See* Ex. 1, Funderburk Decl., July 30, 2018 at ¶ 3.

Mr. Funderburk is especially qualified to testify regarding the computer program (*i.e.*, “ArcGIS”) used by Dr. Ricchetti for geocoding purposes. *See* Ex. 2, Funderburk Tr., June 20, 2018, at 7:21-8:2. Mr. Funderburk uses GIS regularly both at work and the geography courses he teaches at the University of Southern Mississippi. *See Id.* Geocoding is the basis for Dr. Ricchetti’s regression analysis; therefore, if the geocoding is inaccurate it naturally follows that Dr. Ricchetti’s statistical analysis is based on unreliable information.¹ Mr. Funderburk’s testimony on the accuracy of the underlying geocoding undoubtedly will help the trier of fact understand the central question raised by Plaintiffs, which is whether MCSD’s roadblocks target Black census tracts.

Mr. Funderburk’s assignment was simple: to determine whether Dr. Ricchetti accurately and reliably geocoded roadblock locations used in his regression analysis. Mr. Funderburk explained his review of Dr. Ricchetti’s geographic analysis. [Dkt. # 267-21 at ¶¶ 37-42]. He reviewed Dr. Ricchetti’s report and deposition to ascertain the process Dr. Ricchetti purportedly used to convert raw, coarse intersection-only address information into precise geocoordinates. [*Id.* at ¶ 37]. He then reviewed Dr. Ricchetti’s entire production file, which included both his geocoded roadblock locations and his attempts to geocode MCSD’s entire computer-aided dispatch (“CAD”) file. [*Id.* at ¶¶ 39, 60-70]. After loading all of Dr. Ricchetti’s geographic data into ArcGIS, Mr. Funderburk conducted a series of independent tests to see whether the available roadblock location information was conducive to the type of geographic analysis that Dr. Ricchetti purportedly did. *See* Ex. 1, Funderburk Decl. at ¶ 5.

¹ The stated purpose of the regression analysis is to attempt to show the MCSD’s roadblocks target Black census tracts. As Defendants have argued in their rebuttal to their Motion to Strike Dr. Ricchetti, that issue is irrelevant to any issue raised in the Complaint. [Dkt. #312]. Regardless, even if it were relevant, Dr. Ricchetti must reliably and accurately determine which census tract each location is in.

Dr. Ricchetti's report provided no information about how he selected, configured or performed his GIS analysis.² [Dkt. # 267-21 at ¶ 13]. Mr. Funderburk had to perform a substantive review of Dr. Ricchetti's geocoded data before conducting his own analysis of the findings. *See* Ex. 1, Funderburk Decl. at ¶ 5. This process occurred over the course of several weeks. *Id.* Mr. Funderburk's sworn report includes numerous reviews and findings, many of which were not based on his interview of Deputy Thompson. *Id.* at ¶¶ 5 and 10. For instance, Mr. Funderburk observed that Dr. Ricchetti failed to establish any rules or parameters to ensure that he reliably processed "original addresses" from MCSD's dataset into "cleaned addresses." [Dkt. # 267-21 at ¶ 27]. Mr. Funderburk also analyzed the raw addresses provided by MCSD, which were included in Dr. Ricchetti's production file. [*Id.* at ¶¶ 60-70]. He reviewed Dr. Ricchetti's process for "cleaning" original addresses.³ [*Id.* at ¶¶ 21-36]. He reviewed Dr. Ricchetti's final geocoded output. [*Id.* at ¶ 39]. Of that output, he reviewed and identified roadblock locations that straddled two or more census tracts. [*Id.* at ¶¶ 51-59]. He identified the relationship between incorrect geocoded locations and erroneous census tract assignments. [*Id.* at ¶¶ 16 and 51-59]. He attempted to replicate Dr. Ricchetti's claim that he was able to geocode roadblock locations using only information about nearby street intersections. [*Id.* at ¶¶ 44-47 and 49-50]. He reconstructed Dr. Ricchetti's "match-score cutoff," illustrating how little this cutoff improved the reliability of Dr. Ricchetti's process. [*Id.* at ¶¶ 60-70]. Mr. Funderburk mapped and reviewed all of Dr. Ricchetti's other datasets to evaluate his overall geocoding methodology. [*Id.*]. Because Dr. Ricchetti provided no information on the coordinate systems he used or otherwise describe how he calibrated

² Dr. Ricchetti's discussion of his *entire* geographic analysis is relegated to a single footnote in his original report. [Dkt. # 231-1 at 11, n.14].

³ "Cleaning" is a process whereby address information is reformatted into new addresses that are acceptable to the geocoding software.

his mapping tools for this project, Mr. Funderburk analyzed various coordinate system and calibration issues that may have affected the accuracy and reliability of Dr. Ricchetti's analysis. [*Id.* at ¶¶ 71-91]. Plaintiffs' claim that Mr. Funderburk "did not bring any independent expertise to his review and evaluation of the geocoded roadblock locations," but his report tells a different story. [Dkt. # 308 at 15]. In making this argument, Plaintiffs simply choose to disregard Mr. Funderburk's sworn report and deposition testimony.

Mr. Funderburk's final review before completing his report involved a three-hour interview with Deputy Rylon Thompson to review high-resolution images of Dr. Ricchetti's geocoded locations and get firsthand information about roadblock locations commonly used by MCSD. *See* Ex. 1, Funderburk Decl. at ¶¶ 13-18; and Ex. 2, Funderburk Tr. 17:4-21 and 42:20-23. Mr. Funderburk met with Deputy Thompson at a conference room where he set up his ArcGIS mapping software on a large screen so that he and Deputy Thompson could review the locations together using high-resolution imagery. *See* Ex. 1, Funderburk Decl. at ¶ 13-15; and Ex. 2, Funderburk Tr. 42:20-23. As they completed their review, Mr. Funderburk printed eleven examples, which are Exhibits Nos. 1-11 discussed in ¶ 48 of his report. *See* Ex. 1, Funderburk Decl. at ¶¶ 17-18. [Dkt. # 267-21 at 7-9 and 36-46]. This was a part of Mr. Funderburk's ground truthing process. *See* Ex. 1, Funderburk Decl. at ¶¶ 6-18; and Ex. 2, Funderburk Tr. 18:8-19:6.

Exhibits 1-11 identify areas in Madison County where Dr. Ricchetti's roadblock locations are incorrectly geocoded, misassigned to census tracts, or both. *See* Ex. 1, Funderburk Decl. at ¶¶ 17-18. These exhibits depict 22 of the 361 geocoded locations reviewed by Mr. Funderburk. *See Id.* at ¶ 18. Those 22 locations produced 222 of 1,843 roadblocks (12%). *See Id.*; and Ex. 2, Funderburk Tr. 161:16-62:4. [Dkt. # 267-21 at ¶¶ 7 and 24-33]. Mr. Funderburk explained in his report and his deposition that the eleven exhibits represent an inexhaustive list of geocoding and

census tract assignment errors identified from his review. *See* Ex. 1, Funderburk Decl. at ¶ 18; and Ex. 2, Funderburk Tr. 42:7-43:16. [Dkt. # 267-21 at ¶ 48].

Plaintiffs misconstrue the purpose of Mr. Funderburk's interview with Deputy Thompson. In light of the fact that Dr. Ricchetti did no ground truthing, a process even Plaintiffs' geocoding expert says is necessary, Mr. Funderburk at least performed ground truthing to determine if Dr. Ricchetti's geocoded locations matched the true locations where MCSD conducts its roadblocks. They did not match. This is useful information that will greatly assist the trier of fact.

B. Sworn Declarations by Lieutenant Sandridge and Deputy Thompson.

Plaintiffs' attack on Mr. Funderburk's reliance on Deputy Thompson is without merit. The record contains declarations from Lieutenant Mark Sandridge and Deputy Rylon Thompson that are sworn pursuant to 28 U.S.C. § 1746. [Dkt. # 270-6 and Dkt. # 270-7]. Both declarations explain routine practices of how MCSD conducts its roadblock program and how officers choose roadblock locations. Both officers will be available to testify in these proceedings, as needed, regarding true roadblock locations. Plaintiffs offer no basis under Fed. R. Evid. 703 to challenge Deputy Thompson's competency to answer Mr. Funderburk's questions, and certainly offer nothing to exclude Exhibits Nos. 1-11, to which Deputy Thompson has previously sworn in these proceedings. [Dkt. # 270-7]. Though the data relied upon by an expert need not be admissible itself under Fed. R. Evid. 703, the information provided by Deputy Thompson is admissible evidence.

As explained in his declaration, Mr. Funderburk requested to meet with a MCSD representative who knew about MCSD's roadblock program, in particular someone who could provide accurate and precise firsthand information about the specific locations where roadblocks are set up. *See* Ex. 1, Funderburk Decl. at ¶ 13. MCSD sent Deputy Thompson. *See Id.* Plaintiffs

offer nothing to support their challenge to Deputy Thompson's competency to answer Mr. Funderburk's questions other than their own incredulity. That is not a basis to exclude an expert under Rule 703. Deputy Thompson, on the other hand, previously submitted a sworn declaration about his familiarity with the roadblock program and locations used by MCSD. [Dkt. # 270-7]. He now submits a second declaration swearing to his firsthand knowledge regarding the locations depicted in Exhibits Nos. 1-11 and his knowledge regarding the routine practices of MCSD's selection of roadblock locations. *See* Ex. 3, Deputy Rylon Thompson Decl., July 30, 2018 at ¶¶ 4-8. He explains that the same locations near intersections and along roads predominate their routine practice because only a few meet MCSD's criteria for roadblock locations. *See Id.* at ¶¶ 5-6.

Lt. Sandridge and Deputy Thompson have extensive, firsthand knowledge regarding roadblock locations that Dr. Ricchetti ostensibly geocoded and the routine practice of finding roadblock locations that meet MCSD's criteria. Attached to their sworn declarations are the eleven maps printed out by Mr. Funderburk, which illustrate the data and specific geocoding errors they know exist. Both explain how deputies call in roadblock locations and why that information may only reference nearby intersections. [Dkt. # 270-6 at ¶ 7; and Dkt. #270-7 at ¶ 6].

C. Plaintiffs' Experts

1. Dr. Ricchetti's Second Report

Plaintiffs offer a second report from Dr. Ricchetti, a labor economist. [Dkt. # 304-1]. Though he clearly did not conduct his own geographic analysis, Dr. Ricchetti nevertheless offers a critique of Mr. Funderburk's geographic findings.⁴ [Dkt. # 307 at 2; and Dkt. # 308 at 5-6]. Dr.

⁴ Dr. Ricchetti admitted during his deposition that he did not conduct the geocoding analysis [Dkt. # 272-2, Dr. Ricchetti Tr.: 163:6], and that no members of the team assisting him were geographers. [*Id.* at 196:13]. None of three newly-designated Plaintiffs' experts, including geographer Dr. Patricia Frontiera, claim to have conducted the geographic analysis.

Ricchetti, who admittedly has no expertise in geographic analysis, claims that Mr. Funderburk “overstates the extent of certain data issues[.]” [Dkt. # 304 at ¶ 1]. He explains “the fact that the data on roadblock location provided by MCSD includes the location of the intersection, rather than an exact address, is not by itself a problem for my analysis. The purpose of my analysis is to look at the frequency of roadblocks across census tracts.” [Dkt. # 304 at ¶ 3]. Stated differently, Defendants’ concerns about the inability to accurately and reliably locate roadblock locations are immaterial because Plaintiffs are only looking at how frequently roadblocks were conducted. While Dr. Ricchetti admits that Mr. Funderburk correctly found that many roadblocks straddle census tract boundaries, a fact unaccounted for in his original analysis, he claims this error is just a “common feature of data and regression analysis[.]” [*Id.*]. He posits that Mr. Funderburk and Defendants failed to calculate the effect this admitted error has on his analysis, suggesting Defendants bear the burden to quantify his error. [*Id.*].

Dr. Ricchetti ultimately admits, however, Mr. Funderburk’s sample showing at least a 12% error rate was merely “caused by poor data quality in the data produced by MCSD, rather than geocoding methods.” [*Id.* at ¶ 50]. This, of course, was Mr. Funderburk’s overall criticism of Dr. Ricchetti’s claim — that Dr. Ricchetti was able to somehow convert raw, coarse, intersection-only address information into precise geocoordinates sufficiently reliable for a statistical analysis. [Dkt. # 267-21 at ¶ 18](“It is my opinion no geographer would be able to reliably, accurately, or precisely geocode the specific roadblock locations using only the name of nearby intersecting streets.”). Thus, Dr. Ricchetti does not deny the existence of the errors identified by Mr. Funderburk, rather he denies whether they affect his analysis.

2. *Dr. Patricia Frontiera, Plaintiffs’ New Geographer*

Plaintiffs recently hired Dr. Patricia Frontiera to explain Dr. Ricchetti's geographic analysis for him. Dr. Frontiera's first finding is that "street intersections can be reliably geocoded," which Mr. Funderburk also found. *See* Ex. 2, Funderburk Tr. 56:15-57:10. [Dkt. 302-3 at ¶¶ 28-31]. She defends Dr. Ricchetti's use of a match-score cutoff, but never explains why, after applying Dr. Ricchetti's cutoff, his production file showed locations in Nebraska and Wisconsin satisfied this 90% cutoff.⁵ [Dkt. # 302-3 at ¶¶ 32-45; Dkt. # 267-21 at ¶¶ 60-70]. Instead, she says that any out-of-state geocoded locations that passed the 90% cutoff were de minimis. [Dkt. # 302-3 at ¶¶ 44-45]. She then critiques Mr. Funderburk's ground truthing methods, especially his interview with Deputy Thompson, [Dkt. # 302-3 at ¶¶ 43-61], but she certainly does not explain her basis for challenging Deputy Thompson's competency. She does not explain how she is in a better position than Mr. Funderburk to judge the quality of Deputy Thompson's knowledge and answers to Mr. Funderburk's ground truth questions. After criticizing Mr. Funderburk's meeting with Deputy Thompson, she provides several examples of proper ground truthing. [*Id.* at ¶¶ 48 and 52]. Two of those methods are "reviewing the site on high-resolution imagery such as Google Maps or Google Earth satellite imagery" [¶ 48] and speaking to someone with firsthand knowledge of the location to be geocoded. [*Id.* at ¶ 52]. As discussed above, Mr. Funderburk utilized both these methods. *See* Ex. 1, Funderburk Decl. at ¶ 9.

Dr. Frontiera also criticizes Mr. Funderburk's review with Deputy Thompson because it was not sufficiently random [Dkt. # 302-3 at ¶ 53] and because their visual review "naturally draws one's eyes to the errors, be they few or many, rather than the correct locations." [*Id.* at ¶ 54]. Like Dr. Ricchetti, she attributes any errors to data problems [*Id.* at ¶¶ 15, 20, 28, and 61], which is exactly what Mr. Funderburk found. [Dkt. # 267-21 at ¶¶ 15, 18, and 44-46]. She agrees with Mr.

⁵ Figures 3 and 4 of Mr. Funderburk's report depict Dr. Ricchetti's geographic analysis of the CAD file, not roadblock locations.

Funderburk that ground truthing is a “widely used method for evaluating the accuracy and precision of geocoded results” but does not explain what, if any, ground truthing Dr. Ricchetti conducted for his analysis. [Dkt. # 302-3 at ¶ 48]. Finally, her report acknowledges that many roadblocks were not assigned to the proper census tract and, though she cannot settle on the proper census tract assignments, she concludes again that these errors are immaterial. [*Id.* at ¶¶ 69-89]. She reaches this conclusion without conducting her own ground truthing to determine the severity of the error or otherwise specifically quantify the error.⁶ Ultimately, she asserts that Defendants’ overblow their concerns about imprecise census tract assignments because this level of imprecision is acceptable in academic literature about public health disparities. [Dkt. # 302-3 at ¶¶ 69-70].

ARGUMENT

Whether Plaintiffs accurately geocode roadblock locations and correctly assign each roadblock location to census tracts is central to Dr. Ricchetti’s regression analysis upon which Plaintiffs’ case completely rests. Mr. Funderburk will provide testimony as a professional geographer that will assist the trier of fact in understanding this underlying basis, and to evaluate its validity and reliability. Thus, Mr. Funderburk’s testimony is relevant and admissible under Fed. R. Evid. 702. *See Brown v. Illinois Cent. R. Co.*, 705 F.3d 531, 535 (5th Cir. 2013)(citing *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589, (1993)). Certainly, his testimony will assist the trier of fact in considering the technical information before it in these proceedings. *Gholar v. A O Safety*, 39 F. Supp. 3d 856, 860 (S.D. Miss. 2014).

I. Mr. Funderburk Is Qualified To Provide Expert Testimony, and His Testimony is Both Relevant and Reliable.

⁶ Dr. Frontiera also cites other academic settings where this level of imprecision and inaccuracy are acceptable. *See e.g.*, vehicle crash investigations in Hawaii [Dkt. # 302-3 at ¶30. n.14] and cancer registries. [Dkt. # 302-3 at ¶33. n.18].

Plaintiffs claim Mr. Funderburk's testimony should be excluded because it "primarily" relies on statements from Deputy Thompson.⁷ [Dkt. # 308 at 13-15]. Plaintiffs further argue Mr. Funderburk used improper "ground truthing" and that the specific errors identified in Exhibits Nos. 1-11 are "a purely arbitrary subset." [*Id.* at 13, 15-18]. Plaintiffs cite several cases in their motion, but none apply Fed. R. Evid. 702 and 703 in the manner they propose here. The most recent, controlling authority cited by Plaintiffs only confirms the admissibility of Mr. Funderburk's testimony. *See Factory Mut. Ins.*, 705 F.3d 518.

A. All Findings Attributable to Mr. Funderburk's Interview Of Deputy Thompson Are Admissible Based On the Controlling Authority Identified By Plaintiffs.

Plaintiffs cite no authority that applies Fed. R. Evid. Rule 702 and 703 in the manner they seek here. In fact, one of the cases they cite actually *confirms* the admissibility of Mr. Funderburk's testimony. [Dkt. # 308 at 13-14]. Plaintiffs three times suggest Mr. Funderburk simply parroted information from Deputy Thompson, but they never explain specifically how this information falls outside the purview of Fed. R. Evid. 703.

In *Robroy Indus.-Texas, LLC v. Thomas & Betts Corp.*, 2017 WL 1319553 (E.D. Tex. Apr. 10, 2017), which Plaintiffs cite throughout their brief [Dkt. # 308 at 6, 13-15, and 18], the district court rejected an unqualified expert's evidentiary summaries related to substantive areas that were beyond her expertise. *Id.* at *8-10. The court emphasized that its ruling was based on the fact the disputed expert sought to provide expert testimony on a substantive issue in which she had *no* expertise.⁸ *Id.* at *9. Plaintiffs here do not challenge Mr. Funderburk's technical expertise as a

⁷ Plaintiffs previously argued the Federal Rules of Evidence as to admissibility are not applicable to testimony during the class certifications stage. [Dkt. # 294 at 11-12]. However, in their motion to strike Mr. Funderburk, Plaintiffs now argue that *Daubert* (an application of Rule 702 and 703) applies at the certification stage. [Dkt. # 308 at 12]. Plaintiffs cannot have it both ways.

⁸ *Robroy* actually supports excluding an economist's testimony where, like Dr. Ricchetti here, the economist attempts to testify about substantive areas (geography) well beyond her expertise. The district

geographer. Additionally, it cannot be seriously asserted that Deputy Thompson's firsthand account of roadblock locations "summarizes [MCSD's] case for the jury," which is what the court determined the unqualified expert attempted to do in *Robroy*. *Id.* *10. Rather, Deputy Thompson's information is merely an account regarding the discrete factual question of true roadblock locations. Mr. Funderburk used this information to *confirm* and *illustrate* the findings that he formulated from his review of the data long before he ever met Deputy Thompson.⁹ See Ex. 1, Funderburk Decl. at ¶¶ 5, 10, and 18.

The most recent, controlling authority from the Fifth Circuit relied on by Plaintiffs only confirms the admissibility of Mr. Funderburk's testimony. The holding from *Factory Mutual*, which Plaintiffs cite, confirms that Mr. Funderburk's testimony is admissible under Fed. R. Evid. 703. [Dkt. # 308 at 14]. *Factory Mutual* involved a valuation question related to a waste treatment plant leveled by an explosion. 705 F.3d. at 524. Like past roadblocks from Madison County, the plant was no longer available for the plaintiffs' expert to inspect. *Id.* The appraiser needed some other way to estimate the pre-explosion depreciation and decided to meet with "individuals who were purportedly familiar with the" plant. *Id.* Because many of the witnesses did not know how to estimate depreciation, the expert educated the witnesses on the spot on how to determine the plant's pre-explosion depreciation. *Id.* The expert collected those witness

court in *Robroy* excluded the testimony of Plaintiff's economist who attempted to offer testimony on substantive areas in which she "brings nothing to the table by way of pertinent expertise[.]" 2017 WL 1319553 at *10.

⁹ Plaintiffs also cite *Modica v. Maple Meadows Homeowners Ass'n*, 2014 WL 1663150 (E.D. Pa. Apr. 2, 2014), and *Hunt v. McNeil Consumer Healthcare*, 297 F.R.D. 268, 275 (E.D. La. 2014), in support of their arguments, but their reliance on these cases is also misplaced. [Dkt. # 308 at 13-14]. In *Modica*, the court excluded expert testimony after finding that significant portions of his report simply summarized deposition testimony and, more significantly, did not constitute Rule 702 testimony. *Id.* at *1, n.3 (finding that opinion testimony "about how humans walk and the potential dangerousness of wearing high heels" did not constitute "expert" testimony). In *Hunt*, the court excluded an expert opinion that was "based almost exclusively on the opinions of other experts." *Id.* at 275. Neither of the circumstances raised in *Modica* or *Hunt* are relevant to Plaintiffs' motion.

determinations, which he then used as the sole basis for his own estimates. *Id.* The Fifth Circuit affirmed the admission of the appraiser's testimony even though his valuation opinion "relied solely" on the witnesses' estimates and there was no way to competently test the witnesses' estimates. *Id.* at 524-26. The Fifth Circuit explained the expert testimony was admissible because he testified that the firsthand witness accounts constituted the sort of information reasonably relied upon in his field; he demonstrated that he was familiar the substantive area broadly; and his inquiry needed to be "viewed in light of what was feasible." *Id.* at 525.

All of Mr. Funderburk's opinions based on his interview with Deputy Thompson satisfy Rule 703 as applied in *Factory Mutual*. In both his deposition and attached declaration, Mr. Funderburk affirms that geographers rely on firsthand knowledge of witnesses to ground truth geocoded locations. *See* Ex. 1, Funderburk Decl. at ¶¶ 4, 19, and 20; and Ex. 2, Funderburk Tr. 21:7-10. Plaintiffs' geographer, Dr. Frontiera, agrees. [Dkt. # 302-3 at ¶ 52]. Plaintiffs do not challenge Mr. Funderburk's qualifications as a geographer, so like the appraiser in *Factory Mutual*, Mr. Funderburk has demonstrated that he is broadly familiar with the substantive area at issue. Roadblocks are inherently ephemeral, much like the exploded plant in *Factory Mutual*. Mr. Funderburk cannot go back and personally observe each roadblock, so his reliance on Deputy Thompson's testimony via Rule 703 needs to be "viewed in light of what was feasible," as the Fifth Circuit explained in *Factory Mutual*.¹⁰ Plaintiffs' own geographer acknowledges that geocoding principles are contextual depending on the application. [Dkt. # 302-3 at ¶¶ 14, 19, 38, and 64]. Moreover, Plaintiffs' criticism of Deputy Thompson's competency to discuss roadblock locations seems to be based simply on their skepticism. Plaintiffs do not otherwise offer anything

¹⁰ Plaintiffs assert that Deputy Thompson and Officer Sandridge were not present at all the roadblocks. This is immaterial. Both testify that they know the locations of MCSD roadblocks in particular areas based on their experience and their knowledge of the routine practice of the MCSD. *See* Fed. R. Evid. 406.

to support their challenge to Deputy Thompson's competency to answer Mr. Funderburk's questions. That is not enough to exclude Mr. Funderburk under Fed. R. Evid. 703, and certainly not enough given that Deputy Thompson has now submitted two sworn declarations in these proceedings declaring his familiarity with MCSD's roadblock program, locations, and routine practices. If Deputy Thompson is not competent to answer questions about MCSD's roadblock locations, it is difficult to see how Dr. Ricchetti is.

B. A Geographer May Reasonably Rely on Information From Deputy Thompson.

Fed. R. Evid. 703 provides, in part, that "An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely on those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted." Under this rule, experts can base their opinions on firsthand knowledge, evidence and testimony admitted at trial, or information that has not been admitted but is the kind of information on which experts in the field reasonably rely. *Bases for Expert Opinion—Reasonable Reliance*, 29 Fed. Prac. & Proc. Evid. § 6274 (2d ed.). Mr. Funderburk has sworn that the facts and data gathered from witness interviews, such as his with Deputy Thompson, is the type of information that geographers reasonably rely upon in their work. *See* Ex. 1, Funderburk Decl. at ¶¶ 4-19, and 20. *See Factory Mut.*, 705 F.3d at 525. Mr. Funderburk has identified two prominent examples in which geographers relied on firsthand witness accounts: geographic investigations into Hurricane Katrina and the Deep Water Horizon disaster. *See* Ex. 1, Funderburk Decl. at ¶ 12.

C. Dr. Frontiera's Report Confirms that Mr. Funderburk's Ground Truthing Was the Product of Reliable Principles and Methods.

Citing ¶ 48 of Dr. Frontiera's report, Plaintiffs argue that Mr. Funderburk's findings are not based on proper ground truthing methods. [Dkt. # 308 at 15-18]. Yet in that same paragraph

Dr. Frontiera explains that “reviewing the site on high-resolution imagery such as Google Maps or Google Earth satellite imagery” is a generally accepted ground truthing method. [Dkt. # 302-3 at ¶ 48]. As explained above, at his deposition, and as shown in his attached declaration, that is exactly what Mr. Funderburk did during his interview of Deputy Thompson. *See* Ex. 1, Funderburk Decl. at ¶¶ 8-18. Mr. Funderburk and Deputy Thompson together reviewed high-resolution imagery of Madison County and Dr. Ricchetti’s geocoded locations. *See Id.* at ¶ 14-15. Once they completed their review, Mr. Funderburk printed out the eleven locations, *i.e.*, Exhibits Nos. 1-11 to his report, representing over 22 roadblock locations and a total of 222 roadblocks. *See Id.* at ¶ 18. Plaintiffs’ entire argument ignores Mr. Funderburk’s un rebutted testimony that he had ArcGIS displayed with high-resolution imagery on a large screen while reviewing Dr. Ricchetti’s geocoded locations with Deputy Thompson.¹¹ *See Id.* at ¶ 15; and Ex. 2, Funderburk Tr. 42:20-23.

Plaintiffs overlook more than just Mr. Funderburk’s deposition testimony; they also ignore specific findings in Dr. Frontiera’s report. Dr. Frontiera further explained in ¶ 52 that “ground truthing and accuracy assessment require knowledge of the real world feature under study in order to identify its location on a map or in the field. *In this case that would be a person with first-hand knowledge of the location of the roadblocks.*” [Dkt. # 302-3 at ¶ 52](emphasis added). Again, that is the exact methodology that Mr. Funderburk invoked when interviewing Deputy Thompson. Dr. Frontiera’s report confirms that Mr. Funderburk’s ground truthing satisfied her ideas of acceptable ground truthing. [Dkt. # 302-3 at ¶¶ 48 and 52]. Mr. Funderburk’s ground truthing is clearly the

¹¹ Dr. Frontiera establishes that ground truthing is necessary. [Dkt. # 302-3 at ¶48]. Yet, Dr. Ricchetti plainly did not do this.

product of reliable principles and methods. *See* Ex. 1, Funderburk Decl. at ¶¶ 4, 11, 12, and 19-20.

Plaintiffs further argue that the roadblock locations depicted in Exhibits Nos. 1-11 to Mr. Funderburk's report are not "statistically random." [Dkt. # 308 at 17-18]. Plaintiffs make the peculiar argument that "a visual review of a map of the geocoded locations will naturally draw one's eyes to the errors, be they few or many, rather than the correct locations."¹² [Dkt. # 308 at 17]. Significantly, Plaintiffs do not argue that Mr. Funderburk wrongly identified Dr. Ricchetti's errors. Instead, they argue that had Mr. Funderburk used a larger, more-random sample, he might have found more correct locations and that the visual inspection method he used "naturally draw[s] one's eyes to the errors[.]" Whether or not that is true, Mr. Funderburk certainly would not have found fewer incorrect locations. And even if a visual inspection too easily or too efficiently spots errors, as Plaintiffs' argument seems to suggest, this is no basis for striking expert testimony. To the contrary, visual displays only make Mr. Funderburk's opinions and testimony more understandable. Exhibits Nos. 1-11 reveal no less than 12% of the 1,843 roadblocks reviewed by Mr. Funderburk were incorrectly geocoded, misassigned to census tracts, or both. The fact he could have reviewed it more inefficiently or might have identified more errors had he reviewed all roadblock locations does not justify striking his testimony.

II. Mr. Funderburk's Opinions Regarding Dr. Ricchetti's Analysis Are Supported and Reliable.

Plaintiffs challenge four of Mr. Funderburk's opinions they contend are unreliable. [Dkt. # 308 at 14-20].

A. Plaintiffs' Mischaracterize Mr. Funderburk's Criticism of Geocoding Intersections.

¹² This is nothing more than rank speculation.

Nowhere in Mr. Funderburk's report does he find that intersections cannot be geocoded. Instead, he clearly finds that Dr. Ricchetti geocoded the middle of intersections where the centerline of two roads cross. [Dkt. # 267-21 at ¶ 14]. Yet, Plaintiffs attempt to reframe Mr. Funderburk's findings with this false assertion in order to fit their narrative that Mr. Funderburk made broad, conclusory findings.¹³ [Dkt. # 308 at 15]. Mr. Funderburk's report specifically provides:

15. Based on my experience, you would not be able to accurately geocode roadblocks near an intersection or an approaching street with intersection-only address information. For example, you would need to know the locations orientation from the center point of the intersection and how many feet out from the intersection the roadblock occurred from the center of the intersection.

* * *

18. It is my opinion no geographer would be able to reliably, accurately, or precisely geocode the specific roadblock locations using only the name of nearby intersecting streets. This opinion is based upon my experience and my review of the documentation and data described.

[Dkt. # 267-21 at ¶¶ 15 and 18].

Mr. Funderburk's carefully-worded finding identifies what Dr. Ricchetti overlooked in his initial report: roadblock location and intersection location are not always the same. In the end, the best that can be said about Dr. Ricchetti's geographic analysis is that he geocoded the very center of intersections near roadblock locations. Deputy Thompson's firsthand experience confirms that many roadblocks are not in the geographical center of an intersection. Given his geographic analysis only geocoded the centerlines of intersections, Dr. Ricchetti's regression analysis does not reflect the relationship between race and true roadblock location, but rather race and nearby intersections.

¹³ Mr. Funderburk was questioned about this extensively at his deposition where he confirmed he was not saying that intersections cannot be geocoded. *See* Ex. 2, Funderburk Tr. 56:15-57:7.

B. Mr. Funderburk's Opinions About the Reliability of Dr. Ricchetti's Analysis Are Well-Founded Given the Data Cannot Be Reliably Geocoded.

Plaintiffs challenge Mr. Funderburk's qualification to opine in any way about Dr. Ricchetti's statistical analysis. [Dkt. # 308 at 15-18]. While it is true that Defendants did not designate Mr. Funderburk as an expert in statistics, he is not offering an opinion on statistics. Mr. Funderburk, as a professional geographer, is certainly qualified to offer an opinion about whether any meaningful analysis can be made on geographic data that he determined to be unreliable and inaccurate. *See* Ex. 1, Funderburk Decl. at ¶ 23-25. He did not offer any statistical analysis in his report. He offered an opinion as an expert in geography that fundamentally-flawed geographic analysis corrupts any subsequent analysis based on it. *See Id.* at ¶ 24-25. Plaintiffs are certainly permitted to believe that no amount of error, including not knowing where the roadblocks actually were, can corrupt Dr. Ricchetti's statistical analysis. However, Defendants and Mr. Funderburk do not have to agree.

Moreover, Plaintiffs' Motion fails to acknowledge to the Court that they questioned Mr. Funderburk about his background in statistics during his deposition, and that he testified he indeed uses regression analysis in his work as a geographer. *See* Ex. 2, Funderburk Tr. 15:16-23 and 154:16-55:2 ("I mean I understand statistical regressions. I've used them before in my own research and publications. So I understand the regression analysis, yes."). Any concern that his general statement about the substandard quality of Dr. Ricchetti's geographic analysis touches on statistics is belied by the fact that Mr. Funderburk testified he uses regression analysis in his research. *See* Ex. 1, Funderburk Decl. at ¶¶ 23-25. That certainly allows him to opine about the narrow question of whether erroneous geographic analysis affects regression analysis. *See Id.* He is certainly qualified to opine about the effect several acknowledged errors in a geographic analysis would have on any analysis of that geographic analysis. *Id.*

C. Plaintiffs Do Not Dispute Mr. Funderburk's Finding that Roadblock Locations Were Inconsistently and Often Incorrectly Assigned to Census Tracts.

Dr. Ricchetti testified that he never considered that many roadblocks straddled census tract boundaries. [Dkt. # 270-2, Ricchetti Tr. 178:10-14]. In his report, Mr. Funderburk estimated the number of straddling roadblocks and explained how Dr. Ricchetti's analysis failed to establish any protocol to handle these straddling roadblocks.¹⁴ [Dkt. # 267-21 at ¶¶ 51-59]. Plaintiffs now seek to strike all of Mr. Funderburk's testimony on this subject because, in their view, he could have done more to quantify or test the impact that this error had on Dr. Ricchetti's regression analysis. [Dkt. # 308 at 22]. This is strange logic, especially since Plaintiffs object to Mr. Funderburk's qualifications to opine about statistics, as discussed above. Plaintiffs, as the proponents of the expert evidence to be provided by Dr. Ricchetti, bear the burden of showing that it is admissible. *See Mathis v. Exxon Corp.*, 302 F.3d 448, 459-60 (5th Cir. 2002). Defendants do not bear the burden of demonstrating its inadmissibility. *See Rieger v. Orlor, Inc.*, 427 F. Supp. 2d 99, 102 (D. Conn. 2006).

According to Plaintiffs' argument, a rebuttal expert that identifies a material oversight in another expert's findings should not be allowed to testify about that oversight because the rebuttal expert could have done more to quantify the error.¹⁵ Dr. Ricchetti's initial analysis failed to consider or address this issue. Plaintiffs have not provided any basis to exclude Mr. Funderburk's

¹⁴ Dr. Frontiera estimates that the number of locations straddling census tracts is 662 of 1,843 roadblocks, or 36%. [Dkt. # 302-3 at ¶82]. The remainder of her analysis on this issue attacks Mr. Funderburk's findings because, according to her, he should have quantified the error. [Dkt. # 302-3 at ¶¶ 69-89]. Dr. Frontiera herself, though, never actually quantifies the error.

¹⁵ Dr. Ricchetti, understandably, does not want to dwell on the errors in his geographic analysis, choosing to focus on why his statistical analysis remains valid despite the numerous admitted errors in the underlying data. [Dkt. # 304-1 at ¶47])(“Mr. Funderburk's critiques of the roadblock data ignore the relevant question from a statistical point of view[.]”).

testimony on this point other than to insist he could have quantified it more. Mr. Funderburk correctly identified the existence of straddling roadblocks and the fact that Dr. Ricchetti's geographic analysis failed to account for this phenomenon. It is not Defendants' or Mr. Funderburk's burden to quantify Dr. Ricchetti's errors.

D. Mr. Funderburk's Critique of Dr. Ricchetti's Match-Score Cutoff Confirmed the Striking Superficiality of Dr. Ricchetti's Geographic Analysis.

Plaintiffs seek to exclude Mr. Funderburk's opinions on Dr. Ricchetti's match-score cutoff and coordinate reference system.¹⁶ [Dkt. # 308 at 23-24]. In his report, Mr. Funderburk explained his review of Dr. Ricchetti's match-score cutoff, providing two figures that illustrate datasets from Dr. Ricchetti's production file.¹⁷ [Dkt. # 267-21 at ¶¶ 60-70]. Ultimately, he explains how the 90% cutoff used by Dr. Ricchetti is entirely superficial. [Dkt. # 267-21 at ¶ 68]. Plaintiffs cite no basis for striking Mr. Funderburk's testimony on the cutoff other than that Dr. Frontiera disagrees with him. They do not contend he is not qualified to testify about match score or that it will not help the trier of fact. "The theory upon which expert testimony is excepted from the opinion evidence rule is that such testimony serves to inform the court about affairs not within the full understanding of the average man." *United States v. Webb*, 625 F.2d 709, 711 (5th Cir. 1980) (citing *Farris v. Interstate Circuit*, 116 F.2d 409, 412 (5th Cir. 1941)); *see also Gholar*, 39 F. Supp. 3d at 860 (S.D. Miss. 2014). Further, Mr. Funderburk's testimony will assist the trier of fact in considering the technical information before it in these proceedings. *Id.*

Additionally, Plaintiffs seek to strike all of Mr. Funderburk's testimony regarding coordinate systems contained in ¶¶ 71-87 of his report. [Dkt. # 308 at 24-25]. Plaintiffs argue that

¹⁶ GIS systems attempt to match addresses to the closest available nearby address, which are often assigned a match score rating. [Dkt. 267-21 at ¶ 61].

¹⁷ Figures 3 and 4 of Mr. Funderburk's report depict Dr. Ricchetti's geographic analysis of the CAD file, not roadblock locations.

Mr. Funderburk did not specify how coordinate systems might have influenced Dr. Ricchetti's error. Mr. Funderburk did not quantify any error related to coordinates systems because Dr. Ricchetti did not provide any information regarding how and why he selected the coordinate systems he used in his analysis. Dr. Frontiera does not defend Dr. Ricchetti's choice of coordinate systems because Dr. Ricchetti obviously did not consider them in his analysis. Instead, Dr. Frontiera finds that any problems related to incorrect or inconsistent coordinate systems is immaterial or de minimis especially considering the application. [Dkt. # 302-3 at ¶¶ 65-67]. Again, Dr. Frontiera does not deny Mr. Funderburk's findings about coordinate systems.

Dr. Frontiera finds throughout her report that the geographic analysis used by Dr. Ricchetti need not be too accurate given this application. She cites numerous social science applications related to health disparities, cancer registries, and vehicle accidents investigations presumably to illustrate the level of accuracy she contends is appropriate for this context. Neither she, nor Plaintiffs, cite any case or authority accepting the level of inaccuracy and imprecision they argue for here. The parties obviously disagree about the level of accuracy required in order to find a constitutional violation. Regardless, Plaintiffs' belief that Dr. Ricchetti's geocoded locations are close enough is no basis to strike Mr. Funderburk's expert testimony, no matter how many of his findings they admit but then claim are de minimis.

CONCLUSION

Defendants respectfully request that this Court deny Plaintiffs' Motion to Exclude Mr. Funderburk's report and testimony.

Respectfully submitted this 30th day of July, 2018.

**MADISON COUNTY, MISSISSIPPI and
SHERIFF RANDALL C. TUCKER, IN
HIS OFFICIAL CAPACITY**

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CERTIFICATE OF SERVICE

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So, certified this the 30th day of July, 2018.

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